



The Relationship Between Athlete Perceptions of Coaching Leadership Behaviors and Athlete Grit

LANDON BRAUN^{†1}, LINDSAY ROSS-STEWART^{‡2}, and BARBARA B. MEYER^{‡1}

¹School of Rehabilitation Sciences & Technology, University of Wisconsin-Milwaukee, Milwaukee, WI, USA; ²Department of Applied Health, Southern Illinois University-Edwardsville, Edwardsville, IL, USA

[†]Denotes graduate student author, [‡]Denotes professional author

ABSTRACT

International Journal of Exercise Science 17(5): 13-24, 2023. Coach leadership style has long been positively correlated with athlete experiences such as motivation, health (i.e., burnout), and performance outcomes (i.e., enhanced execution time to complete tasks) (24). More recently, grit (18) has been positively correlated with athlete experiences such as engagement (39) and decreased burnout (32). Given the impact coaches have on their athletes and the positive psychological benefits of grit, it is reasonable to explore the intersections of coaching behaviors and grit. As such, the purpose of the current study was to examine the relationship between athlete perceptions of coach leadership behaviors and athlete grit. Intercollegiate athletes completed measures of grit and the leadership behaviors of their coach. A significant positive relationship was observed between the grit perseverance subscale and the leadership behavior of training and instruction ($r = .30, p < .05$). Additional analyses revealed that athletes' perceptions of coach positive feedback significantly predicted their perseverance. Taken together, these findings suggest a link between positive coach feedback and athlete perseverance. Implications of these results for professional practice and future research are discussed.

KEY WORDS: Coach athlete relationship, perseverance, sport

INTRODUCTION

Defined as passion and perseverance for long-term goals (18), the concept of grit was originally examined as a personality characteristic with the aim of explaining positive outcomes among highly successful individuals (20). In cognitive domains, grit has been associated with outcomes including conscientiousness toward daily activities in adult populations (12, 19), improved performance on the Scholastic Aptitude Test (SAT) among high school students, higher-grade point average (GPA) in undergraduate students (18), greater overall course engagement among nursing students (48), and advancement in the Scripps National Spelling Bee among adolescent populations (18). Researchers have also identified relationships between grit and higher retention as well as completion of cadet programming at the United States Military Academy (18). Within the overarching grit framework, two dimensions have been identified: consistency

of interests and perseverance of efforts (2, 18). Consistency of interests signifies the time and deliberate practice needed to achieve proficiency in a task, while perseverance of efforts signifies the process of attaining full achievement in a specific task through many peaks and valleys that require the individual to persist (20). Individuals who demonstrate consistency of interests and perseverance of efforts are considered to have more grit, a characteristic which as indicated above may be related to performance or success in various domains such as school and the military.

While less commonly examined in the sport domain, grit has slowly evolved as a more frequently studied topic in sport psychology (53). Among college athlete populations, higher levels of overall grit have been recorded by student-athletes than by non-athletes (13), suggesting that athletes are diligent in continually working on their craft through obstacles. In studies of athletes participating in specific sports, researchers have consistently reported a link between grit and time in sport and engagement with sport. For example, significant relationships were reported between grit and time in sport for adult CrossFit athletes (4) while grit was identified as a significant predictor of sport engagement among youth soccer players (38) and adult wheelchair basketball players (39, 40). Researchers have also identified significant relationships between grit and the personality traits conscientiousness (25), perfectionism, and perfectionistic strivings in Canadian and Dutch college athlete populations (13), signaling that athletes who report higher levels of grit may be more diligent in working toward goals. Finally, Howard (32) reported negative correlations between grit and burnout as well as negative correlations between grit and depression among college athletes, indicating that those who report higher levels of grit also report lower levels of burnout and depression. Taken together, the above results suggest athletes who report higher levels of grit may not only be more engaged with their sport but also be highly conscientious toward their sport and less likely to experience burnout and depression.

Given the known presence and benefits of grit within sport, interest has expanded to include how grit can be developed. Even with increased research on grit in sport, there has been a paucity of research to date that has included the role of the coach in developing grit in athletes. The lack of research including the coach in developing grit is surprising given the documented importance of the coach on athlete mentality (10, 26, 27, 45, 46, 47) and performance (35). Among the scant literature that does exist, a majority has focused on exposing athletes to difficult situations and allowing them to attempt to persist (54). Concomitantly, another body of literature considers specific coaching behaviors and styles needed to develop grit. In one of the only studies to investigate coaching behaviors and grit, Scharneck (49) examined the relationships between coaching behaviors, grit, and mental toughness in a sample of 219 collegiate student-athletes from various competitive playing levels. Significant positive correlations ($p < .05$) were reported between autonomy-supportive coaching behaviors (i.e., democratic coaching, social support, positive feedback) and grit. Path analysis further revealed that controlling coaching behaviors (i.e., autocratic coaching traits) had a direct negative effect on grit. Similarly, Donald et al. (17) reported positive correlations between grit and democratic coaching, social support, positive feedback, and training and instruction in a college athlete

population. Although sparse, these findings highlight the potential role of the coach and leader on athlete grit.

In sport, effective leadership is highly valued by coaches and athletes alike as it has been shown to be a fundamental tenant of team achievement (6). Described as the behavioral process of influencing individuals and groups toward set goals (1), coach leadership has a known impact on athlete outcomes such as burnout (34), coping (14), satisfaction with sports practice (22), emotions (55), sport performance (22), collective efficacy (28), and injury occurrence (22). To date, the Multidimensional Model of Leadership (MML) proposed by Chelladurai (7) has been the most common framework through which to examine the behavior and effectiveness of sport coaches. The MML framework addresses the congruence among three different leadership behavior states: required (e.g., the way a leader has to behave), actual (e.g., the way the leader behaves), and preferred (e.g., the way athletes would like the leader to behave) (5,7). Chelladurai (5) concluded that team performance and athlete satisfaction are together a function of the congruence among the above three states of leader behavior.

To apply and specifically measure congruence of preferred, required, and actual leader behavior, an accepted operationalization of leadership in sport, the Leadership Scale for Sport (LSS) was developed (7). Five dimensions of leader behavior in sport are measured in the LSS: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback. Democratic behavior (e.g., participation by the athletes in decisions related to group goals, practice methods, game tactics, and strategies) has been associated with increases in intent to continue an athletic career (37) as well as athlete motivation (36). Conversely, autocratic behavior (e.g., independent decision making by the coach) has been positively correlated with stress and anxiety in athletes while negatively correlated with athlete enjoyment with sport (52). The training and instruction dimension (e.g., coaches facilitating training, instructing skills and techniques to the athlete) has been positively correlated with sport satisfaction (41). Social support (e.g., concern for the welfare of individual athletes, a positive group atmosphere and warm interpersonal relationships with athletes) has also been positively correlated with athlete sport satisfaction (11). And in a qualitative study of 22 youth gymnasts, positive feedback (e.g., reinforcing an athlete for a good performance) was reported to play a role in helping athletes continue to work through adversity toward their goals (56).

Although the MML has facilitated understanding of the role of coach leadership style on athlete psychological status, (14, 15), there is little research examining the role of coach leadership on athlete grit. Given the known benefits of grit in a sporting environment (13, 25, 32), among next steps are to explore the role of coach leadership on this specific psychological characteristic—grit. The purpose of the current study, therefore, was to examine the relationship between grit and coach leadership style. Informed by findings of previous research, with special attention to the findings of Scharneck (49) and Donald (17), the following hypotheses were developed:

1. Athlete perceptions of their coaches' democratic coaching will be positively correlated with grit perseverance, grit consistency and overall grit score.

2. Athlete perceptions of their coaches' autocratic coaching style will be negatively correlated with grit perseverance, grit consistency, and overall grit score.
3. Athlete perceptions of their coaches' positive feedback will be positively correlated with grit perseverance, grit consistency, and overall grit score.
4. Athlete perceptions of their coaches' social support will be positively correlated with grit perseverance, grit consistency, and overall grit score.

METHODS

Participants

Participants included 75 collegiate athletes representing six competitive playing levels and five academic grade levels (see Table 1). Participants also represented 11 different sports, with experience ranging from 0 to 10+ years (see Table 2).

Table 1. Participant Demographics

Characteristic	No (%) ^a
Self-identified gender	
Female	47 (63)
Male	27 (36)
Non-binary/third gender (please specify)	1 (1)
Competitive Playing Level	
NCAA Division I	9 (12)
NCAA Division II	28 (37)
NCAA Division III	28 (37)
NAIA	6 (8)
NJCAA	4 (5)
ACHA	2 (3)
No response	1 (1)
Grade	
Freshman	17 (23)
Sophomore	17 (23)
Junior	12 (16)
Senior	26 (35)
Graduate Student	2 (3)

^aPercentage values are rounded and may not total 100%.

Table 2. Participant Demographics

Characteristic	No (%) ^a
Sport	
Basketball	23 (31)
Volleyball	12 (16)
Soccer	8 (11)
Baseball	6 (8)
Football	5 (7)

Ice hockey	5 (7)
Tennis	4 (5)
Cheerleading	4 (5)
Swimming	2 (3)
Softball	2 (3)
Beach volleyball	1 (1)
Not listed	1 (1)
Years of playing experience	
0-5 years	34 (45)
6-10 years	12 (16)
10+ years	27 (36)
No response	2 (3)

^aPercentage values are rounded and may not total 100%.

Protocol

Leadership Scale for Sport (7; LSS): The LSS is a 40-item Likert type questionnaire (1 – *never* to 5 – *always*), designed to assess coaches' perceptions of their own behavior, along with athletes' preference for coach behavior. This questionnaire consists of 40 questions divided into 5 dimensional subscales: training and instruction (e.g., training process to improve athlete performance, 13 items); democratic behavior (e.g., allowing athletes to be involved in decision making, 9 items); autocratic behavior (e.g., tendency to stay distant while making decisions for athletes, 5 items); social support (e.g., behavior directed toward personal needs of athletes, 8 items), and positive feedback (e.g., need of coaches to compliment athletes, 5 items). The LSS begins with the stem "In coaching I..." for coaches evaluating their own coaching behaviors. In the current study, the stem was amended for athletes completing the measure (i.e., "My coach..."). The original scale has been found to be valid and reliable in college coach and athlete populations (3, 7, 29, 30). The LSS demonstrated good reliability ($\alpha = .80$) in the present study.

Grit Scale –Original (14; GS-O): The GS-O measured grit using a 12-item scale, in which each question is answered on a Likert type scale of 1 – "*not like me at all*" and 5 – "*very much like me.*" Grit is measured by an overall score as well as the subscales of perseverance (e.g., setbacks do not discourage me) and consistency of interests (e.g., my interests change from year to year). This scale has been found to be valid and reliable in NCAA athletic populations (12, 13, 19). The scale demonstrated slightly below acceptable levels of reliability ($\alpha = .67$) in the present study.

Prior to data collection, approval from the university Institutional Review Board was obtained. After approval, 20 coaches known to the research team were asked via email to participate by sending a survey to their athletes. The coaches who agreed to participate received a link to two surveys via email: (a) the questionnaire for coaches which included the LSS, where they would evaluate their own coaching behaviors; and (b) the questionnaire for athletes which included the LSS and the GS-O. Given that initial recruitment took place at the height of the COVID-19 pandemic, and in an effort to generate a more robust sample, secondary recruitment was undertaken three weeks later via social media with links to the surveys posted on the

organizational and personal social media pages of the research team. At the conclusion of data collection, there was an insufficient sample size of coaches to complete analyses for coaches. Therefore, only the athlete data were analyzed. A priori GPower analysis indicated that a sample of 70 athletes would provide sufficient power to the statistical analyses.

Statistical Analysis

Descriptive statistics were calculated for the five LSS subscales and the three GS-O subscales. Pearson correlation coefficients were calculated to determine the relationship between each of the five leadership subscales and grit perseverance, grit consistency, and overall grit score. Based on the findings of the correlations, a stepwise linear regression was conducted to evaluate whether athletes' perceptions of the LSS subscales could predict any of the grit subscales. All analyses were conducted using the Statistical Package for Social Sciences (SPSS), version 25.0.

RESULTS

Significant positive correlations were reported between athletes' perceptions of their coaches' training and instruction and grit perseverance [$r(71) = .27, p = .02$], athletes' perceptions of their coaches' social support and grit perseverance [$r(72) = .39, p < .001$], and athletes' perceptions of their coaches' positive feedback and grit perseverance [$r(72) = .45, p < .001$]. No significant correlations were identified between any of the leadership subscales and grit consistency or overall grit score. A full list of results can be found in Table 3.

Table 3. Means, Standard Deviations, and Pearson's Correlations

	M	SD	1	2	3	4	5	6	7	8
1. Overall Grit Score	3.57	0.52	—							
2. Grit Consistency	3.14	0.61	.79**	—						
3. Grit Perseverance	4.00	0.66	.82**	.30**	—					
4. Training & Instruction	4.02	0.62	.12	-.09	.27*	—				
5. Democratic Behavior	3.41	0.75	-.02	-.13	.07	.39**	—			
6. Autocratic Behavior	2.30	0.85	.12	.06	.40	-.43**	-.19	—		
7. Social Support	3.41	0.61	.22	-.05	.39**	.54**	.35**	.41	—	
8. Positive Feedback	3.79	0.76	.23	-.11	.45**	.65**	.49**	.05	.54**	—

*Correlation is significant at the 0.05 level **Correlation is significant at the 0.01 level

Based on the findings of the above correlations, a stepwise linear regression was conducted to evaluate whether athletes' perceptions of coaches' positive feedback, social support and training and instruction predicted grit perseverance. Results of regression analyses indicated that positive feedback significantly predicted the grit subscale perseverance [$R^2 = .48, F(1,71) = 18.69, p < .001$] at step 1. At step 2, neither social support ($t = 1.78, p = .08$) nor training and instruction ($t = -.31, p = .76$) entered into the equation. The results of the regression analyses indicated that approximately 48% of the variance of athletes' grit perseverance could be accounted for by their perceptions of their coaches' use of positive feedback.

DISCUSSION

The purpose of the current study was to investigate the relationship between coaching style and athlete grit as viewed by athletes. Based on prior research findings it was hypothesized that athletes' perceptions of their coaches' democratic coaching behavior would be positively correlated with grit perseverance, grit consistency, and overall grit score. This hypothesis was not supported, a finding which is not consistent with other researchers (17, 49) who report a positive relationship between democratic coaching behaviors and athlete grit. This finding is surprising given that previous researchers (37) reported positive relationships between democratic behavior and athlete actions that could constitute grit (i.e., intent to continue an athletic career). The difference between current and previous findings may be due to the timeframe in which data were collected. Specifically, data in the current study were collected during the early stages of the COVID-19 pandemic (Fall 2021) when athletes had limited direct contact with their coaches and were frequently operating and connecting in a virtual environment through various technology platforms. As such, they may have been receiving little sport-specific direct democratic coaching from their coach. This lack of in-person and sport-specific interaction could explain the lack of an observed relationship between democratic coaching and grit.

In the current study, it was also hypothesized that athlete perceptions of their coaches' autocratic coaching style would be negatively correlated with grit perseverance, grit consistency, and overall grit score. This hypothesis was also not supported. No statistically significant relationships were observed between athletes' perceptions of their coaches' autocratic coaching and any of the grit subscales. This result is surprising as a previous researcher (49) has reported significant negative relationships between controlling coaching behaviors (i.e., autocratic coaching) and grit, and a positive relationship between autonomy supportive coaching behaviors, democratic coaching behaviors and grit in athletes. This finding could be attributed to the way coaches and athletes were regularly interacting, a virtual online environment due to the pandemic. Athletes could have viewed their coaches as being much more accommodating in listening to their thoughts and ideas in the virtual environment during the time of transition, rather than a more traditional in-person.

It was also hypothesized that positive feedback would be positively correlated with grit perseverance, grit consistency, and overall grit score. In line with prior research (17), the results of the current study partially support this hypothesis, whereby athlete perceptions of their coaches' positive feedback were positively and significantly correlated with grit perseverance, yet not significantly correlated with grit consistency or overall grit score. Given this, it is of particular interest that the regression analysis conducted in the current study reported that athletes' perceptions of their coaches' positive feedback was a significant predictor of their (i.e., athlete) grit perseverance. This finding is consistent in part with existing qualitative literature which supports the notion of coach positive feedback helping athletes work through adversity (56). The findings of the regression highlight the importance of the relationship between positive feedback and athlete perseverance, a key tenant of grit. It is also plausible that athletes who have

high grit perseverance are more likely to perceive their coaches as positive. The finding of the regression analysis is important because often in pop culture (43, 44), grit is discussed as a characteristic that can be taught through “tough love” or negative interaction with athletes. The quote “We have to break them down to build them up” is often used when discussing how to build grit in athletes (23), yet is contradictory to the findings of the current study which suggest that to build perseverance coaches should be focused on giving positive feedback.

Finally, in the current study it was hypothesized that social support would be positively correlated with grit perseverance, grit consistency, and overall grit score. Consistent with prior findings (17), this hypothesis was partially supported. Social support was positively correlated with grit perseverance, but not grit consistency or overall grit. These findings suggest that perceived social support from coaches could be related to the way that athletes persevere through difficult times.

Taken together, the findings of hypotheses 3 and 4 are consistent with current coaching literature on the importance of positive coaching. Specifically, it has been observed that positive feedback is not only desired by athletes (14, 31, 50) but is associated with behaviors that constitute grit perseverance such as diminished levels of sport burnout (9) as well as athletes’ perceived ability in sport (8, 31, 33). That is, if athletes believe in their ability to participate successfully in sport, they are likely to continue to work through encountered obstacles. Similarly, previous researchers have reported that when coaches are perceived by their athletes as giving more social support, the athletes demonstrated behaviors consistent with grit perseverance such as higher levels of motivation as well as lower levels of anxiety and sport burnout (14, 16, 31, 51). The correlational nature of the positive relationships between positive feedback and grit perseverance as well as social support and grit perseverance suggests that the relationships may be a function of athletes with higher grit perseverance being more likely to view their coaches as better able to provide positive feedback or social support. Regardless of the direction of the relationship between positive feedback, social support, and grit perseverance, the findings of the current and previous research highlight the importance of positive feedback and social support in the athlete-coach relationship.

While the current study is an important addition to the research on grit in sport, limitations exist which warrant further consideration. One such limitation is the sample size. The small sample of athletes is not necessarily indicative of views of all athletes and barely above previously conducted sample size analyses. It is also possible that athletes could have already developed a strong sense of grit before entering their college sport environment. Similarly, while athletes were prompted to evaluate their current coach, it could be the coaching behavior of a previous coach contributed to their development of grit. Furthermore, due to the small sample size and anonymity of the coaching survey, we were unable to analyze the coaching data directly and match the coach self-evaluation of their leadership style to that of the athletes who evaluated them. Several of the inconsistencies identified between the findings of the current study and prior research could be attributed to measurement error. Specifically, coach leadership behavior was measured by the LSS in the current study and by the Controlling Coach Behaviors Scale

and the Autonomy-Supportive Coaching Questionnaire in previous studies. Finally, it is also noted that data in the current study were collected during the COVID-19 pandemic. Thus, it is possible that the results are not generalizable to non-COVID-19 times, as social support and positive feedback may be of particular importance during a particularly stressful time for athletes (21, 42).

The findings of the current study provide merit for further investigation of the relationships between coach leadership behaviors and athlete grit. It is suggested that researchers build on these findings to determine the direction of the coach leadership-athlete grit relationship. Being able to directly determine the effect of coaching behaviors on grit will enable coaches to decide how they interact with athletes to enhance the coach-athlete relationship and facilitate a desirable personal characteristic in the athletes they coach. Future research should also replicate the present study with a team and its respective coaches. Coach responses were not analyzed in the current study and thus not compared to athlete responses. By comparing responses of athletes with those of their respective coaches it will be possible to examine specific coaching behaviors and how they directly impact the athletes on that team.

ACKNOWLEDGEMENTS

The authors would like to acknowledge and thank the participants of the study, as well as the various research assistants helping to collect and distribute electronic surveys to coaches and athletes within their network.

REFERENCES

1. Barrow JC. The variables of leadership: A review and conceptual framework. *Acad Manag Rev* 2(2): 231-251, 1977.
2. Berk RA. Grit 2.0: A review with strategies to deal with disappointment, rejection, and failure. *J Fac Dev* 32(2): 91-104, 2018.
3. Brooks DD, Ziatz D, Johnson B, Hollander D. Leadership behavior and job responsibilities of NCAA division 1A strength and conditioning coaches. *J Strength Cond Res* 14(4): 483-492, 2000.
4. Cazayoux M, DeBeliso M. Effect of grit on performance in CrossFit in advanced and novice athletes. *Turk J Kin* 5(1): 28-35, 2019.
5. Chelladurai P. Leadership. In: Singer RN, Murphey M, Tennant LK, editors. *Handbook of research on sport psychology*. New York, NY: Macmillan; 1993.
6. Chelladurai P, Reimer HA. Measurement of leadership in sport. *Advan Sport Exerc Psychol Measure* 1: 227-253, 1998.
7. Chelladurai P, Saleh SD. Dimensions of leader behavior in sports: Development of a leadership scale. *J Sport Exerc Psychol* 2(1): 34-45, 1980.

8. Chia JS, Pyun DY, Kwon H. The impact of congruence between perceived and preferred leadership on satisfaction among college student-athletes in Singapore. *Asia Pacific J Educ* 35: 498-513, 2015.
9. Choi H, Jeong Y, Kim SK. The relationship between coaching behavior and athlete burnout: Mediating effects of communication and the coach-athlete relationship. *Int J Environ Res Public Health* 17(22): 8618, 2020.
10. Chow G, Murray K, Feltz DL. Individual, team, and coach predictors of players' likelihood to aggress in youth soccer. *J Pers Soc Psychol* 31(4): 425-443, 2009.
11. Cranmer GA, Sollitto M. Sport support: Received social support as a predictor of athlete satisfaction. *Commun Res Rep* 32(3): 253-264, 2015.
12. Credé M, Tynan, MC, Harms PD. Much ado about grit: A meta-analytic synthesis of the grit literature. *J Pers Soc Psychol* 113(3): 492-511, 2017.
13. Cormier DL, Dunn JG, Dunn JC, Rumbold JL. Grit and perfectionism in intercollegiate athletes. *J Exerc Move Sport* 51(1): 89-89, 2019.
14. Cruz AB, Kim HD. Leadership preferences of adolescent players in sport: Influence of coach gender. *J Sports Sci Med* 16: 172-179, 2017.
15. Cumming SP, Smith RE, Smoll FL. Athlete-perceived coaching behaviors: Relating two measurement traditions. *J Sport Exerc Psychol* 28(2): 205-213, 2006.
16. DeFreese JD, Smith AL. Teammate social support, burnout, and self-determined motivation in collegiate athletes. *Psychol Sport Exerc* 14: 258-265, 2013.
17. Donald KU, Marvin SR, Farmer AW, Cypress K. The association between high school coaches' leadership behaviors and athletes' self-efficacy and grit. *Sport J* 24: 1-14, 2019.
18. Duckworth, AL, Peterson C, Matthews MD, Kelly DR. Grit: Perseverance and passion for long-term goals. *J Pers Soc Psychol* 92(6): 1087-1101, 2007.
19. Duckworth AL, Quinn PD. Development and validation of the short grit scale (GRIT-S). *J Pers Assess* 91(2): 166-174, 2009.
20. Duckworth, AL. The key to success? Grit. Retrieved from https://www.ted.com/talks/angela_lee_duckworth_the_key_to_success_grit?language=en#t-9644; 2013.
21. Economou PJ, Glascock V, Louie M, Poliakova P, Zuckerberg W, Park H, Economou P. COVID-19 and its impact on student-athlete depression and anxiety: The return to campus. *Sport J* 24: 1-13, 2021.
22. Ekstrand J, Lundqvist D, Lagerbäck L, Vouillamoz M, Papadimitiou N, Karlsson J. Is there a correlation between coaches' leadership styles and injuries in elite football teams? A study of 36 elite teams in 17 countries. *Br J Sports Med* 52(8): 527-531, 2018.
23. Even-esh Z. Building Grit & mental toughness in athletes "safely" + 5 training tips. Retrieved from <https://zacheven-esh.com/grit-mental-toughness-5-tips/>; 2021.
24. Fransen K, Boen F, Vansteenkiste M, Mertens N, Vande Broek G. The power of competence support: The impact of coaches and athlete leaders on intrinsic motivation and performance. *Scand J Med Sci Sports* 28(2): 725-745, 2018.

25. From L, Thomsen DK, Olesen MH. Elite athletes are higher on grit than a comparison sample of non-athletes. *Scand J Sport Exerc Psychol* 2: 2-7, 2020.
26. Gearity BT, Murray MA. Athletes' experiences of the psychological effects of poor coaching. *Psychol Sport Exerc* 12(3): 213-221, 2011.
27. Gillet N, Vallerand RJ, Amoura S, Baldes B. Influence of coaches' autonomy support on athletes' motivation and sport performance: A test of the hierarchical model of intrinsic and extrinsic motivation. *Psychol Sport Exerc* 11(2): 155-161, 2010.
28. Hampson R, Jowett S. Effects of coach leadership and coach-athlete relationship on collective efficacy. *Scand J Med Sci Sports* 24(2): 454-460, 2014.
29. Hastie PA. Coaching preferences of high school girl volleyball players. *Percept Mot Skills* 77: 1309-1310, 1993.
30. Hastie PA. Factors affecting coaching preferences of secondary school volleyball players. *Percept Mot Skills* 80: 347-350, 1995.
31. Hollembeak J, Amorose AJ. Perceived coaching behaviours and college athletes' intrinsic motivation: A test of self-determination theory. *J Appl Sport Psychol* 17: 1-17, 2005.
32. Howard J. Student-athlete success: An examination of parenting, grit, academic success, and mental health outcomes. Doctoral Dissertation, University of Southern Mississippi, 2020.
33. Ignacio RA, Montecalbo-Ignacio RC, Cardenas RC. The relationship between perceived coach leadership behaviours and athletes' satisfaction. *Int J Sport Sci* 7: 196-202, 2017.
34. Isoard-Gautheur S, Trouilloud D, Gustafsson H, Guillet-Descas E. Associations between the perceived quality of the coach-athlete relationship and athlete burnout: An examination of the mediating role of achievement goals. *Psychol Sport Exerc* 22: 210-217, 2016.
35. Kavussanu M, Boardley ID, Jutkiewicz N, Vincent S, Ring C. Coaching efficacy and coaching effectiveness: Examining their predictors and comparing coaches' and athletes' reports. *Sport Psychol* 22(4): 383-404, 2008.
36. Khaskheli MNA, Sahito HA, Soomro JA. The democratic way of coaching and motivation for student-players'. *Sir Syed J Educ Soc Res* 3(4): 129-136, 2020.
37. Kim S, Park S, Love A, Pang TC. Coaching style, sport enjoyment, and intent to continue participation among artistic swimmers. *Int J Sport Sci Coach* 16(3): 477-489, 2021.
38. Larkin P, O'Connor D, Williams AM. Does grit influence sport-specific engagement and perceptual-cognitive expertise in elite youth soccer? *J Appl Sport Psychol* 28(2): 129-138, 2016.
39. Martin JJ, Byrd B, Watts ML, Dent M. Gritty, hardy, and resilient: Predictors of sport engagement and life satisfaction in wheelchair basketball players. *J Clin Sport Psychol* 9(4): 345-359, 2015.
40. Martin JJ, Whalen L. Effective practices of coaching disability sport. *Eur J Adapt Phys Act* 7(2): 13-23, 2014.
41. Nazarudin MNBH, Fauzee OSM, Jamalis M, Geok KS, Din A. Coaching leadership styles and athlete satisfaction among Malaysian University Basketball team. *Res J Int Stud* 9(1): 4-11, 2009.

42. NCAA-Sport Science Institute. NCAA student-athlete covid-19 well-being survey. Retrieved from https://www.geneseo.edu/sites/default/files/sites/dean_students/2020RES_NCAASACOV-19SurveyReport.pdf; 2020.
43. Neri DJ. Gridiron grit: Angela Duckworth on excelling in the NFL and beyond. Retrieved from <https://behavioralscientist.org/gridiron-grit-angela-duckworth-excelling-nfl-beyond/>; 2017.
44. O'Sullivan J. Rescue your kids from "affluenza": Teach them grit! Changing the Game Project. Retrieved from <https://changingthegameproject.com/rescue-your-kids-from-affluenza-teach-them-grit/>; 2013.
45. Poczwadowski A, Barott JE, Henschen KP. The athlete and coach: Their relationship and its meaning. Results of an interpretive study. *Int J Sport Psychol* 33(1): 116-140, 2002.
46. Raabe J, Zakrajsek RA. Coaches and teammates as social agents for collegiate athletes' basic psychological need satisfaction. *J Intercol Sport* 10(1): 67-82, 2017.
47. Rezania D, Gurney R. Building successful student-athlete coach relationships: Examining coaching practices and commitment to the coach. *Springerplus* 3: 383, 2014.
48. Robinson WL. Grit and demographic characteristics associated with nursing student course engagement. Doctoral Dissertation, Indiana University-Purdue University Indianapolis, 2015.
49. Scharneck L. The mediating effect of self-determined motivation in student-athlete perceptions of coaching behaviors and its effect on grit and mental toughness. Doctoral Dissertation, Illinois State University, 2017.
50. Sullah A, Hian TC, Ismail S. Preferred coaches' leadership styles of Malaysian football teams. *Springer Singapore* 635-644, 2014.
51. Sunar IG, Omar-Fauzee MS, Yusof A. The effect of school coaches' decision-making style and burnout on school male soccer players. *Eur J Soc Sci* 8: 672-682, 2009.
52. Syrmipas I, Bekiari A. Differences between leadership style and verbal aggressiveness profile of coaches and the satisfaction and goal orientation of young athletes. *J Phys Educ Sport* 18: 1008-1015, 2018.
53. Tedesqui RA, Young BW. Associations between self-control, practice, and skill level in sport expertise development. *Res Q Exerc Sport* 88(1): 108-113, 2017.
54. Tedesqui RA, Young BW. Coaching athletes on the path to expertise: Strategies to foster conscientiousness, grit, and self-control. *J Exerc Move Sport* 51(1): 166-166, 2019.
55. Vargas-Tonsing TM, Bartholomew J. An exploratory examination of the effects of coaches' pre-game speeches on team efficacy beliefs. *J Appl Soc Psychol* 36: 918-933, 2009.
56. White RL, Bennie A. Resilience in youth sport: A qualitative investigation of gymnastics coach and athlete perceptions. *Int J Sport Sci Coach* 10(2-3): 379-393, 2015.

